

IN THE UNITED STATES DISTRICT COURT
DISTRICT OF UTAH, CENTRAL DIVISION

LUTRON ELECTRONICS CO., INC.,
Plaintiff,

v.

CRESTRON ELECTRONICS, INC. et al.,
Defendants.

**MEMORANDUM DECISION
AND ORDER CONSTRUING CLAIMS
PURSUANT TO *MARKMAN* HEARING**

Case No. 2:09-cv-00707 CW

Judge Clark Waddoups

INTRODUCTION

Plaintiff Lutron Electronics Co., Inc. (“Lutron”) owns a number of patents relating to lighting control technology. Lutron contends that Crestron Electronics, Inc. and other defendants¹ (collectively “Crestron”) have infringed five of Lutron’s patents. On March 30, 2012, the court held a hearing pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996), to construe disputed claim terms. Prior to the hearing, the parties negotiated and stipulated to the construction of certain claims. *See* Claim Construction Chart, 9 14 (Dkt. No. 241, Ex. 1).² The focus at the hearing was therefore more narrow than what was presented in the parties’ briefing. At the hearing, the court construed additional claims, so that only six disputed

¹ The other defendants are Face Group, Inc. d/b/a/ Lifestyle Electronics; Lava Corp.; and Audio Vision Systems, LLC.

² When referring to a document on the docket, the pincite refers to the page number assigned by the cm/ecf system at the top of the page rather than the page number at the bottom of the document.

terms remain at issue. Those claim terms are construed below.

BACKGROUND

Lutron has been before the court in two other patent infringement cases. Because two of the patents at issue here were also part of the prior litigation, a number of claim terms have been previously construed. Crestron asks the court, however, to reconsider its previous claim construction based on its reading of the prosecution history. The two patents that have previously been construed are U.S. Patent No. 5,905,442 (the ‘442 patent) and U.S. Patent No. 5,982,103 (the ‘103 patent). The ‘442 patent provides a “method and apparatus for controlling and determining the status of electrical devices from remote locations.” ‘442 patent, 2 (Dkt. No. 177, Ex. A). The ‘103 patent pertains to a control device that employs an antenna. ‘103 patent, 2, 11 (Dkt. No. 177, Ex. B).

Also before the court are three other patents that Lutron refers to as the ‘959 patent family because “they all stem from a common original patent application.” Lutron’s Opening Claim Construction Brief, 7 (Dkt. No. 176). They are U.S. Patent No. 6,969,959 (the ‘959 patent); U.S. Patent No. 7,342,764 (the ‘764 patent); and U.S. Patent No. 7,480,128 (the ‘128 patent). These patents are “geared toward allowing modern lighting controls to be retrofitted into existing buildings with minimal disruption.” *Id.* Because existing buildings sometimes lack a neutral wire in the electrical wallbox, Lutron’s ‘959 patent family is designed to work either with two wires (“hot” and “dimmed hot”) or three wires (“hot”, “dimmed hot,” and “neutral”). *Id.*

ANALYSIS

“The purpose of claim construction is to ‘determine the meaning and scope of the patent claims asserted to be infringed.’” *02 Micro Int’l, Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (quoting *Markman*, 52 F.3d at 976) (alteration omitted). Disputes about

the meaning and scope of a claim must be resolved by the court, not the jury. *See id.*

I. '442 PATENT TERMS DISPUTED BY THE PARTIES.

The following are the terms in dispute for the '442 patent, and the court's construction of the terms.

A. Term 4: Control information (as used in claims 1, 32, 62, 84)

Lutron contends that Term 4 means, "Information that is used to change the state of the electrical device." Crestron contends the term means, "Information that is used by the control device to change the state of the electrical device." According to Crestron, the information must at least be used by the control device. The court concludes that Crestron's construction would impose a limitation that is not present in the patent. It therefore concludes the term means, "Information that is used to change the state of the electrical device."

B. Term 9: Status (as used in claims 1, 32, 62, 84, 151, 156)

At the hearing, the parties did not dispute Term 9 means, "Condition of the electrical device (such as the on/off state or intensity level of the electrical device)." Accordingly, the court adopts that construction.

C. Term 10: Status information (as used in claims 1, 32, 84)

At the hearing, the parties did not dispute that no construction was necessary for this term. The court therefore does not construe Term 10.

D. Term 17: Controllably conductive device for adjusting the status of said electrical device (as used in claim 1)

At the hearing, the parties did not dispute that no construction was necessary for this term. The court therefore does not construe Term 17.

E. Term 18: A manual actuator for adjusting the status of the electrical device (as used in claims 1, 62)

At the hearing, the parties did not dispute that no construction was necessary for this term.

The court therefore does not construe Term 18.

F. Term 19: A status radio frequency signal (as used in claims 1, 84)

At the hearing, the parties did not dispute Term 19 means, “A signal transmitted wirelessly by an antenna.” The court adopts that construction.

G. Term 20: Status information therein regarding the status of the electrical device as affected by the control information and the manual actuator (as used in claim 1)

At the hearing, the parties did not dispute Term 20 means “Information about the condition of the electrical device, regardless of whether the condition of the electrical device is being directed by control information or by the manual actuator.” The court adopts that construction.

H. Term 21: A status indicator (as used in claims 1, 32, 62, 84)

At the hearing, the parties did not dispute Term 21 means, “A display element, such as an LED or screen, for indicating the condition of the electrical device.” The court adopts that construction.

I. Term 22: Status indicator indicating the status of the electrical device in response to the status information (as used in claim 1)

At the hearing, the parties did not dispute that no construction was necessary for this term.

The court therefore does not construe Term 22.

J. Term 24: Providing a manual actuator at the control device for adjusting the status of the electrical device (as used in claims 32, 84)

At the hearing, the parties did not dispute that no construction was necessary for this term.

Thus, the court does not construe Term 24.

- K. Term 25: Transmitting status information in a radio frequency signal from the control device regarding the status of the electrical device as affected by the control information and the manual actuator (as used in claim 32)**

At the hearing, the parties did not dispute Term 25 means, “Sending from the control device a radio frequency signal containing information about the condition of the electrical device, regardless of whether the condition of the electrical device is being directed by control information or by the manual actuator.” The court adopts that construction.

- L. Term 26: A radio frequency status signal regarding the status of the electrical device as affected by the control information and the manual actuator (as used in claim 62)**

At the hearing, the parties did not dispute Term 26 means, “A radio frequency status signal with information about the condition of the electrical device, regardless of whether the condition of the electrical device is being directed by control information or by the manual actuator.” The court adopts that construction.

- M. Term 27: Status information therein regarding the status of the electrical device after adjustment of the status in response to the control information as affected by the control information and the manual actuator (as used in claim 84)**

At the hearing, the parties did not dispute Term 27 means, “Information about the condition of the electrical device, after the condition has been altered in response to the control information, regardless of whether the condition of the electrical device is being directed by control information or by the manual actuator.” The court adopts that construction.

- N. Term 29: Transmitting status signals via radio frequency transmission (as used in claims 151, 156)**

At the hearing, the parties did not dispute Term 29 means, “Sending signals containing status information via wireless radio frequency transmission.” The court adopts that construction.

II. '103 PATENT TERMS DISPUTED BY THE PARTIES.

The following are the terms in dispute for the '103 patent, and the court's construction of the terms.

A. Term 43: An antenna, sized to fit within an area defined by a faceplate for an outwardly facing opening of said wallbox (as used in claim 1)

Lutron contends Term 43 means, "An antenna developed so it fits within the outer edges of a faceplate that covers the opening of an electrical wallbox." Crestron contends it means, "An antenna whose operating wavelength requires that it be developed so it fits within the outer edges of and behind a faceplate that covers the opening of an electrical wallbox."

Lutron initially filed Application No. 08/598,239 to patent a compact radio frequency transmitting and receiving antenna and control device employing same. That application was then divided into a patent for the antenna, U.S. Patent No. 5,736,965 (Dkt. No. 177, Ex. P), and a separate patent for the control device, U.S. Patent No. 5,982,103. Because the two patents share substantially the same specification, one must differentiate between when the specification is referring to an aspect of the control device and when it is referring to an aspect of the '965 patent. This is complicated by the fact that the control device also incorporates an antenna.

These two inventions have many objects. One object is to have an antenna "sufficiently small" so it fits within the area of a wallbox's faceplate and is not visible. *See e.g.*, '103 patent, col. 4:3 9 (Dkt. No. 177, Ex. B). Lutron distinguished prior art on the basis that the antenna in prior art dangled outside the electrical box in an aesthetically displeasing or dangerous manner. *Id.* at col. 2:54 67. Thus, Lutron contends "sized to fit" means no more than an antenna developed so it fits behind a faceplate.

Another object of the invention is "to provide an antenna which is capable of

reception/transmission effectively despite the size of the antenna being much smaller than the operating wavelength in free space and so does not contain a resonant length.” *Id.* at col. 4:31–36. Thus, Crestron contends “sized to fit” means the antenna typically could not fit within the area of a faceplate due to its operating wavelength, and must therefore be redesigned so it fits.

The court concludes that Crestron’s construction reads a limitation into the claim that was not intended. “Sized” does not necessarily encompass redesign of the antenna due to its operating wavelength. This is shown by another object of the invention, which states,

It is still yet another object of the present invention to provide an antenna *sized* so as to take maximum advantage of the small space available in electrical wall boxes, but allowing other components including mechanical actuation components and user indicators . . . to be incorporated in the wall box.

‘103 patent, col. 4:39–45 (emphasis added). Although the object discusses “sizing” the antenna, notably absent is a discussion of its operating wavelength. The fact that “operating wavelength” is referred to in another object of the invention, and not this one, supports that “sized” does not always mean that the antenna must be redesigned because its operating wavelength precludes it from fitting within the area of a faceplate. Instead, “sized” under this object simply embodies developing an antenna so as to make maximum use of the allocated space, while still allowing for other components. Similarly, a description of the invention also uses “sized” in this manner. *See id.* at col. 11:10–15 (an antenna “sized so that it is no larger than the faceplate for the wallbox opening, and thus concealed behind the faceplate”).

Because Creston’s construction reads an improper limitation into the claim, the court declines to adopt its construction. It is clear, however, that “sized to fit” does mean that the antenna will not be visible. *See e.g.*, ‘103 patent, col. 3:26–28 (distinguishing prior art partly on the basis that it has

a visible antenna); col.3:64 to col. 4:2 (stating an object of the invention was to have a control device with “no visible antenna”); col. 5:5 10 (distinguishing prior art because the present invention’s “antenna is concealed from view”); col. 14:30 31 (stating “the antenna is entirely concealed from the user,” unlike prior art); *see also* Hearing Tr., 28:8 21 (Dkt. No. 271) (stating the specification talks “about no visible antenna,” so Lutron agrees with “adding the words not visible because that is - - that is clearly what the specifications said”). Accordingly, the court construes Term 43 to mean, “An antenna developed so it fits, without being visible, within the outer edges of a faceplate normally used to cover the opening of an electrical wallbox.”

B. Term 34: Housing (as used in claim 1)

For the reasons stated on the record, the court construes Term 34 to mean “A structure that protects or holds components.”

C. Term 38: Status (as used in claim 1)

At the hearing, the parties did not dispute Term 38 means, “Condition of the electrical device that is being controlled (which condition may include, but is not limited to, the on/off state or the intensity level of the electrical device).” The court adopts that construction.

D. Term 45: Providing signals to said remote control device to indicate the status of said controlled electrical device (as used in claim 1)

At the hearing, the parties did not dispute that no construction was necessary for this term. The court therefore does not construe Term 45.

III. ‘959 PATENT TERMS DISPUTED BY THE PARTIES.

The following are the terms in dispute for the ‘959 patent, and the court’s construction of the terms.

A. Term 52: Three wire mode (as used in claim 1)

Lutron contends Term 52 means, “A mode of operation used when the electronic control system operates with a connection to hot, to the load, and to neutral, such that the system can derive power independently of the load.” Crestron contends that no construction is necessary. Because the parties dispute whether the scope of “three wire mode” encompasses the concept of how power will be derived, construction is necessary.

The Federal Circuit has stated “that claims must be read in view of the specification, of which they are a part.” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1324 (Fed. Cir. 2008) (quotations and citation omitted). A patent’s specification “is the single best guide to the meaning of a disputed term.” *Id.* (quotations and citations omitted). Nevertheless, a court must be careful not to “impermissibly import[] limitations from the specification.” *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (citation omitted). When the specification consistently emphasizes a particular feature of the invention, such that the very nature of the claim requires the feature, it is permissible to read that feature into a claim. *Id.*; *Praxair, Inc.*, 543 F.3d at 1324. If a limitation, however, applies to “less than all possible embodiments,” it should not be read into a claim. *Alloc, Inc.*, 342 F.3d at 1370. Likewise, “it is generally not appropriate to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention.” *Praxair, Inc.*, 543 F.3d at 1325 (quotations and citation omitted). When an invention has several purposes, “there is no requirement that every claim directed to that invention be limited to encompass all of them.” *Id.* (quotations and citations omitted).

One purpose of the ‘959 patent is to address how a control device obtains powers when it must share power with a load. A second purpose of the patent is to address how timing information

is obtained when it also must pass through the load. Specifically, the “background” section of the patent states the following about these two problems:

Two wire controls which are connected in series with their loads must charge their power supply and obtain timing information through this load. This load can often have a wide range of input impedance. As such the operation of the power supply and timing circuit is often compromised in the two wire connection scheme. However, a two wire connection is necessary when the control is wired in an application where a neutral wire is not available.

‘959 patent, col. 2:11–18 (Dkt. No. 177, Ex. C). Thus, the invention addresses how to mitigate interference when the power supply and timing information must pass through the same wiring used by the load.

The next paragraph of the “background” section discusses “three wire controls.” A three-wire control has “a neutral wire from the source of AC power” that can be connected “to a neutral terminal of the control.” ‘959 patent, col. 2:20–23. This is significant because when that third wire is present, the power supply and timing information “can be derived independently of the connected load, thereby enhancing performance.” *Id.* at col. 2:23–24. Many times, however, “a neutral wire from the source of AC power is not available.” *Id.* at col. 2:25–26. The following is stated about this third problem:

[A] control is needed that can operate correctly as either a two wire or three wire control, thereby allowing the control to be used in a broad range of field applications with great flexibility.

Id. at col. 2:26–30. Thus, the ‘959 patent family addresses three interrelated problems: mode of operation, the power supply, and timing information.

Lutron contends that when it used the term “two wire mode” it was not a loose reference. Instead, it meant a particular situation where two and only two wire connections are present, such

that power must be derived through the load. In contrast, Creston contends two wire mode simply means that a neutral wire is not present so a neutral terminal cannot be connected to it. Under this rendition, a device is not limited to two and only two wire connections. For example, it could have wires connected to an internal battery for purposes of powering the control device. Thus, the power supply would not have to pass through the load, but the device would still be operating only in two wire mode due to its lack of connection to a neutral terminal and wire. In response, Lutron contends this construction would ignore one of the very problems the patent was intended to address.

As stated above, when a patent serves more than one purpose, not all claims must contain each purpose. Only when that purpose is so pervasive that the very nature of the invention necessitates its inclusion may the purpose be read into a claim. While the invention does focus on solving the power supply issue when a device operates in two wire mode, the court concludes this concept is not so pervasive that it must be read into the claim at issue. Indeed, if one were to accept that power supply information *must* be included when discussing “two wire mode” and “three wire mode,” then under the same logic, the court also would have to include timing information as well. Such a broad construction appears unwarranted based on other statements within the patent.

Under the “summary” section, it states the control system “operate[s] in a two wire mode when the neutral wire connection is absent,” and it “operate[s] in a three wire mode when the neutral wire connection is present.” ‘959 patent, col. 3:39–41. Neither power nor timing is discussed in the paragraph. The “description” section also discusses the modes of operation. It states that the control systems “automatically determine[s] whether to operate in two wire mode or three wire mode (i.e., to operate with or without a neutral wire connection).” *Id.* at col. 4:66 to col. 5:1. This statement provides a strong indication about the scope of “two wire mode” and “three wire mode.” Moreover,

neither power nor timing are discussed in this paragraph either. These references show that Lutron used the terms loosely rather than in a particular manner when it was solving its third problem, namely, developing a device that could operate automatically in two or three wire mode.

The claims themselves provide further information about the scope of the terms. Independent Claim 1 states, “[a]n electronic control system operable in a two wire mode and a three wire mode, comprising, a detector” that generates an output signal so the system operates automatically in the two wire or three wire mode. *Id.* at col. 14:29–36. The claim never expressly discusses the power supply or timing information. In contrast, independent Claim 4 does discuss the power supply. While it also contains other elements that Claim 1 does not have, and would therefore not make Claim 1 redundant if power supply were read into Claim 1, the express statements about the power supply in Claim 4 indicate that they are part of the patent, but not part of Claim 1.

Lutron argues, however, that the prosecution history supports its construction. It cites to the prosecution history of Application No. 10/409,228, “a divisional of the ‘959 patent’s application.” Reply Claim Construction Brief, 59 (Dkt. No. 188).³ Claims 1 and 4 in that application are identical to Claims 1 and 4 in the ‘959 patent. *See* Application No. 10/409,228, at 23 (Dkt. No. 189, Ex. AD). Those claims were not at issue, however, in the cited prosecution history. Instead, the Patent Office rejected Claims 6–14, and 38–40 due to prior art. *See* Remarks/Arguments, 3 (Dkt. No. 189, Ex. AE); *compare with* Application No. 10/409,228, at 24–25, 28–29 (Dkt. No. 189, Ex. AD). Hence, when Lutron was distinguishing prior art, it did so in reference to claims that are not at issue now. Because the prosecution history is less precise than the specification and it addresses claims not at

³ This brief was submitted during the first round of claim construction briefing. Subsequently, Crestron was allowed to amend its claim construction brief, to which Lutron filed a response on March 7, 2012 (Dkt. No. 248).

issue, it lacks persuasive value. Accordingly, the court construes the term to mean, “A mode of operation used when the electronic control system operates with a connection to hot, to the load, and to neutral.”

B. Term 53: Two wire mode (as used in claim 1)

Lutron contends Term 53 means, “A mode of operation used when the electronic control system operates with a connection to hot and to the load, but without a connection to neutral, such that the system must derive power through the load.” Crestron contends that no construction is necessary. The same analysis for Term 52 applies to Term 53. The court therefore construes Term 53 to mean, “A mode of operation used when the electronic control system operates with a connection to hot and to the load, but without a connection to neutral.”

IV. ‘764 AND ‘128 PATENT TERMS DISPUTED BY THE PARTIES

The following are the terms in dispute for the ‘764 and ‘128 patents, and the court’s construction of the terms.

A. Term 57: Neutral zero cross detection signal (as used in all claims)

Lutron contends Term 57 means, “A signal that provides zero cross timing information and indicates the presence of a neutral wire connection.” Crestron contends it means, “A signal that provides neutral zero cross timing information and indicates the presence of a neutral wire connection.”

During the patent prosecution of the ‘764 patent, what is now Claim 1 went through several iterations. To distinguish over prior art, Lutron argued the prior art did not “teach or suggest a detector circuit that causes the control circuit to switch from two-wire mode to three-wire mode upon detection of the presence of a *neutral zero cross detection signal*.” Reply/Remarks, 5 6 (May 29,

2007) (Dkt. No. 241, Ex. 30) (emphasis added). This concept was then incorporated into the ‘764 and ‘128 patents.

Crestron contends that if Lutron’s construction is adopted, it will read out of the term the specific type of signal that Lutron elected, namely, the neutral zero cross detection signal. In its place would be “the more general requirement of a signal providing any zero cross timing.” Crestron’s Claim Construction Brief, 61 (Dkt. No. 239); *see also* Hearing Tr., 85:1–7 (Dkt. No. 271). It cites to Figure 8 of the patents, which embodies two different detectors: a hot zero cross detector and a neutral zero cross detector. The “neutral zero cross detector . . . provides a neutral zero cross detection signal when the neutral terminal is connected to a neutral wire.” ‘128 patent, col. 8:58–60 (Dkt. No. 177, Ex. E).

Lutron points out, however, that Figure 8 is just one embodiment of the patents. The patents themselves do not require two zero cross detectors. Claim 1 of the ‘764 patent refers to *a* zero cross detector, but not a neutral zero cross detector. ‘764 patent, col. 14:55–67 (Dkt. No. 177, Ex. D). Claim 1 of the ‘128 patent does not mention even one zero cross detector. *See* ‘128 patent, col. 14:1–4; *see also* Hearing Tr., 90:9–16 (Dkt. No. 271). If one reads the dependent claims that follow Claim 1 of the ‘128 patent, it is clear that Figure 8 does not limit Claim 1 because it is only the dependent claims that refer to a zero cross detector. To read a zero cross detector requirement into Claim 1 would make the dependent claims redundant. Thus, a “neutral zero cross detection signal” is not dependent upon the presence of a neutral zero cross detector. Nothing in the prosecution history suggests otherwise. *See* Reply/Remarks, 5–6 (May 29, 2007) (Dkt. No. 241, Ex. 30.)

Just as a “neutral zero cross detection signal” is not dependent on the presence of a “neutral zero cross detector,” it is also not dependent on “neutral zero cross timing information.” In fact, that

phrase is not found in either patent. Instead, when the patents discuss timing information, they simply refer to “zero cross timing information.” *See e.g.* ‘764 patent, cols. 9:62-65; 10:24–25 (Dkt. No. 177, Ex. D). This is true even when the Figure 8 embodiment is discussed. Thus, the phrase proposed by Creston introduces a concept not present in the patents.

The “neutral zero cross detection signal” serves two purposes. It notifies that a neutral wire connection is present and it conveys timing information. *See* ‘764 patent, 10:24–28. Accordingly, the court construes the term to mean, “A signal that provides zero cross timing information and indicates that a neutral wire connection is present.”

B. Term 58: Two wire mode of operation (as used in claim 1)

Lutron contends Term 58 means, “A mode of operation of the control circuit used when the dimmer switch operates with a connection to hot and to the load, but without a connection to neutral, such that the dimmer switch must derive power through the load.” Creston contends no construction is necessary.

During the *Markman* hearing, the parties concurred that the analysis for Term 58 was subsumed by the analysis for Term 52 and no additional arguments were presented. *See* Hearing Tr., 105:20–24 (Dkt. No. 271). Based on the court’s analysis for Term 52, the court concludes that Term 58 means, “A mode of operation of the control circuit used when the dimmer switch operates with a connection to hot and to the load, but without a connection to neutral.”

C. Term 59: Three wire mode of operation (as used in claim 1)

Lutron contends Term 59 means, “A mode of operation of the control circuit used when the dimmer switch operates with a connection to hot, to the load, and to neutral, such that the dimmer switch can derive power independently of the load.” Creston contends no construction is necessary.

During the *Markman* hearing, the parties concurred that the analysis for Term 59 was subsumed by the analysis for Term 52 and no additional arguments were presented. *See* Hearing Tr., 105:20–106:2 (Dkt. No. 271). Based on the court’s analysis for Term 52, the court concludes that Term 59 means, “A mode of operation of the control circuit used when the dimmer switch operates with a connection to hot, to the load, and to neutral.”

SO ORDERED this 3^d day of July, 2012.

BY THE COURT:



Clark Waddoups
United States District Judge